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Original Research

The Relationship between Students' Perceived EFL Classroom Climate and their Achievement in English Language

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Abstract

This study attempts to investigate the relationship between students' perceived EFL classroom climate and their achievement in English language. The samples of the study were 200 grade 10 students at Gidole and Chencha Preparatory and Secondary schools in Ethiopia. In order to gather data for the study, classroom climate inventory questionnaire and English language achievement test were used. Pearson Product-Moment Correlation was used to examine correlations between students' perceived EFL classroom climate/ subscales and English language achievement score. In order to know the combined effect of students' perceived classroom climate variables on English achievement score, and the relative contribution of each variable, multiple regression was employed. The findings indicated positive and significant relationships between students' perceived EFL classroom climate variables (task challenge, involvement and teacher support) and their English language achievement test mean score. Divergently, no statistically significant relationships were found between some perceived EFL classroom climate variables (cohesiveness, cooperativeness and satisfaction) and students' English language achievement test mean score. Moreover, the finding revealed that classroom climate variables mingled together, predicted students' English language achievement significantly to 20.5%. Specific to the relative contribution of each variable, task challenge was found to be the most predictor of English language achievement. Based on the findings of this study, implications for theory and practice have been drawn.

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INTRODUCTION

Classroom climate is a potential determinant of students' outcome as it either promotes or detracts learning (Fraser, 1986 and Dorney and Murphy, 2003). Consequently, it should not be ignored as long as effective learning is concerned. The conceptualization of classroom climate was derived from a social psychology literature rooted in the notion of classroom as a social system. Although classroom climate is psychosocial as well as physical atmosphere of the class that potentially influences students' learning, this study dealt only with psychosocial classroom climate. Accordingly, it refers to characteristics and behavior of teachers, students and the interactions among these elements (Deng, 1992).

Since English is a foreign language in Ethiopia, the learning process nearly takes place in the classrooms without outside environmental support. Therefore, engaging and supportive classroom environment that significantly maximizes interaction among the different parties of classroom is highly essential for effective learning (Fraser, 1994; Dornye and Murphy, 2003 and Old father *et al*., 2005). To this effect, teachers are expected to create a suitable climate for learning and provide engaging and authentic tasks which challenge the students to their intellectual levels (Vygotsky, 1978 and Old Father *et al*., 2005). In addition, teachers should create an encouraging atmosphere where students feel safe taking risks, receive support when events intrude on learning, and believe they can succeed if they put forth effort (Brophy, 1987). Moreover, teachers ought to foster approachable and supportive social interactions with students and among students so as to make learning a collaborative endeavor (Vygotsky, 1978).

The elements of classroom climate are complex ranging from the degree to which students are friendly and helpful towards each other (cohesiveness), competitive/cooperative among them, feel the works in class are challenging (task difficulty), involve and participate in class activities and discussions (involvement), get teacher support, and enjoying a class (satisfaction). It is believed that students who are friendly and helpful toward each other are better understand each other's value systems and begin to create a cohesive climate (Shapiro, 1993 and Dornye and Murphy, 2003). With this regard, Montoya and Brown (1990) and Baek and Choi (2002) revealed that students' perception of cohesive classroom was significantly and positively correlated with their achievement scores. However, Dunn and Harris (1998) found that cohesiveness appeared to have no significant relation to students' achievement.

The other dimension of classroom climate is perceived cooperation/competition among students. A cooperative goal structure exists when students perceive that their own achievement goals are dependent on how well other students achieve their goals. Cooperative goal structures result in communication between students, constructive conflict management, a decreased fear of failure, increased levels of trust, greater peer acceptance, and improved support and emotional involvement in learning (Ames, 1992 and Paradise, 1994). In contrast, when competing cliques/groups evolve, students are more likely to focus on negative attributes of others and are more likely to become social isolates (Ames, 1992 and Paradise, 1994). On this line of discussion, Talmage and Walberg (1988) found that the higher the perceived competitiveness by students, the lower the reading achievement score was. Nevertheless, according to Slonaker (1989) and Deng (1992), the relationship between the two variables was not statistically significant.

Students' perceived task difficulty is also an important classroom climate variable that affects learning. To actively involve learners in the learning process and let them construct their own understanding through interaction, the tasks should be at a level of difficulty that is appropriately challenging and attainable (Vygotsky, 1978; Krashen, 1981 and Tomlinson, 2003). With this regard, studies indicated that students who perceived their classrooms tasks challenging achieved more academically and engaged more often in activities related to the subject matter (Haertel, et al., 1981; Walberg and Greenberg, 1997 and Baek and Choi, 2002). However, Slonaker (1989) found a negative relationship between task challenge and achievement score while Anderson (1982) found no significant relationship.

Furthermore, students' perceived involvement in activities and discussions, and their perceptions of teachers' support, concern and friendship towards them are the other classroom variables that affect students' learning (Chan, 1993 and Jeffrey T. Fouts *et al*., 1993). According to Baek and Choi (2002) study, students' level of learning would be improved as their perceptions of involvement in learning increase. However, the existence of teacher's support, concern and friendship towards the students is important for effective involvement in learning (Vygotsky, 1978). The other classroom climate variable is students' perceived EFL class satisfaction (White, 1986). Studies pointed out significant correlations between students' perceived satisfaction and their achievement (Chavez and Cardenas, 1980; Fraser and Fisher, 1983 and Wren, 1992). Divergently, some works however, showed no significant relationships between the two variables (Anderson, 1982; Slonaker, 1989 and Dunn and Harris, 1998).

Last, Baek and Choi (2002) investigated the relationship between students' perceptions of classroom climate and their English academic achievement in Korea. The results showed that seven subscales (i.e., involvement, affiliation, competition, task orientation, order and organization, rule clarity, and teacher control) had a significant correlation with students' academic achievement. In addition, studies conducted in different regions of the world have shown that classroom climate is the most important predictor of academic achievement in different disciplines (Brophy and Good, 1986; Fraser, 1994 and Baek and Choi, 2002). Nevertheless, there were no agreements on subscales that predict or not the students' language achievement.

Although the findings of the preceding studies indicated relationships between classroom climate subscales and students' academic achievement, there are findings which showed no relationship between the variables. Therefore, it seems apparent to say that the findings made are contradictory instead of being conclusive. Additionally, as long as the knowledge of the researcher is concerned, a study on the relationship between students' perceived classroom climate and English language achievement in the context of Ethiopian EFL setting is rare if any. Moreover, classroom climate is sensitive to socio-culture and educational system of a particular community (Cheng, 1994; Li, 1995; Wong; 1995 and Tudor, 1996). Thus, it seems appropriate to study if relationships between these variables could be colored due the stated differences. Taking all these facets into consideration and bearing the potential effects of EFL classroom climate on students' achievement, due attention should be given to its investigation. Consequently, this study attempted to examine the relationships between students' perceived classroom EFL climate and their English language achievement at grade 10 with reference to two selected secondary schools. This study was therefore, hoped to fill the stated gap and contribute towards our understanding of the phenomena. More specifically, the study was intended to answer the following specific research questions: (1) Are there significant relationships between students' perceived EFL classroom climate subscales and their English language achievement test mean score?, (2) Does students' perceived EFL classroom climate predict their English language achievement? and (3) Which subscales of students' perceived EFL classroom climate predict their English language achievement most and least?

Since English is a foreign language in Ethiopia, the learning process nearly takes place in the classrooms without outside environmental support. Therefore, classroom climate that positively influences language learning is highly essential. However, studies with this regard seem to be scant in Ethiopian context if any. Consequently, this study is hoped to shed light with this regard.

As a result, the findings of this study may have both theoretical and practical implications for teachers, educational administrators and teacher training institutions. Teachers and administrators may get better theoretical understanding and awareness of the psychosocial classroom climate that promotes/detracts learning. Besides, based on the gained understanding and awareness, EFL teachers may reformulate best strategies that ensure suitable EFL classroom climate for learning. Furthermore, the finding may give teacher training institutions empirical insight on the importance and impact of EFL classroom climate on students' learning. Consequently, the institutions may take the outcomes into their teacher preparation programs.

It is very complex and difficult task to study all the variables of classroom climate in a single attempt. Consequently, this study was delimited to the relationship between some of students' perceived EFL classroom climate variables and their achievement in English language. The variables considered were students'

perceived cohesiveness, competition/cooperation among students, task difficulty, involvement in activities and discussions, teacher support, and satisfaction with classes. These variables were selected because they were found highly correlated with students' achievement (Fisher and Fraser, 1983). Besides, the achievement test was limited to reading comprehension, vocabulary and grammar only. Furthermore, the study focused on grade 10 students who registered in 2013/14 academic year at Chencha and Gidole Secondary and Preparatory Schools.

MATERIALS AND METHODS

The Research Design

The purpose of this study was to investigate the relationships between students' perceived EFL classroom climate variables and their English language achievement scores. Moreover, it was to examine if students' perceived classroom EFL climate variables could predict students' English language achievement scores. In order to study these relationships, explanatory correlation design was adopted.

The Sample of the Study

Grade 10 students, who registered in 2013/14 academic year at Chencha and Gidole Secondary and Preparatory Schools, were the target population of the study. Among grade 10 students in the two schools, 100 students from each were taken through systematic random sampling technique since this technique gives all students equal probability of being selected. This constituted total sample of 200 students. The subjects of the study were from two high schools located at the same district, Arba Minch Zuria, Ethiopia. They were fairly homogeneous with regard to socioeconomic status.

Variables in the Study

The major independent variable in the study was students' perceived EFL classroom climate with its six subscales. The subscales were students' perceived cohesion, competition/cooperation among students, task difficulty, involvement in activities and discussions, teacher support, and students' satisfaction with class. The dependent variable was students' achievement score which was obtained from the sample students through English achievement test.

Data Collection Instruments and Procedures

My Classroom Climate Inventory (MCI) and English language achievement test were the instruments used in this study. To measure the students' English achievement, a test consisting of 30 multiple choice items was constructed from chapters covered. The test encompassed of reading comprehension, vocabulary and grammar sections. The test was piloted on non-sample students of the same level to determine the internal consistency of the items. Accordingly, an acceptable Cronbach alpha value of 0.81 was found.

Students spend a vast amount of time in school classrooms. Consequently, they seem quite able to perceive and weigh classroom stimuli and render valid judgments on characteristics of their classrooms (Fraser and Walberg, 1981). To this effect, my classroom inventory (MCI) questionnaire was adopted to measure the six subscales of students' perceived EFL classroom climate (Fraser, Treagust and Denis, 1986; Fraser, 1998 and Elias, 2011). The questionnaire consisted of 30 statements with five statements addressing each of the six dimensions.

My classroom inventory (MCI) scale was already proved to be reliable and valid instrument for judging the characteristics of classroom climate (Fraser, Treagust and Denis, 1986; Fraser, 1998 and Elias, 2011). However, the reliabilities of six subscales were checked again through Cronbach alpha since the instrument was translated into Amharic. Moreover, the translation made by an expert was checked for its accuracy by other experts. The reliabilities of six subscales in the questionnaire were found to be 0.91 for cohesion, 0.94 for competition/ cooperation, 0.87 for task difficulty, 0.79 for involvement, 0.95 for teacher support and 0.89 for students' satisfaction, indicating acceptable values. The internal consistency of the entire classroom climate inventory was found to be 0.96, which can be regarded as high.

Both the inventory and English language achievement test were administered in a classroom situation with the presence of the researcher and the classroom teachers. Students were informed that the results of the test were both part of their class requirements and a measure used in this research. Moreover, the students were told that the inventory was to improve classroom climate. This was done to make sure that the students would take the test seriously and attempt their best in answering the item of the test and to respond to the inventory appropriately.

The student were instructed to read each statement and mark "Yes" if the statement described his/her own EFL classroom climate or "No" if it did not. In scoring the items, a score of 3 was given for the "Yes" response, and a score of 1 was given for the "No" response. However, negative items were scored in the reverse manner, whereby "Yes" was scored 1-point and "No" was scored 3 points. After all students responded to the inventory, scores for each scale was averaged to provide a classroom climate profile. The total score for a particular scale was the sum of the scores for the five items belonging to that scale. With regard to scoring of the test, each item was allotted 1 mark which altogether constituted 30 marks.

Methods of Data Analysis

Data from the research instruments were analyzed using SPSS Version 15.0. Specifically, a two-tailed Pearson Product-Moment Correlation was used to investigate correlations between students' perceived EFL classroom climate/ subscales and English achievement score at a significant level of 0.05. In order to know whether the combined effect of students' perceived classroom climate variables predicts English achievement score or not, multiple regression was employed. In addition, beta weights of multiple regressions were used to see the relative contributions of each predictor variable.

RESULTS

In order to see whether there was difference or not between the two schools on the students' perceptions of classroom climate, two factors ANOVA was used. It was found that there was no significant classroom climate perception difference between the two schools [$F(1, 59) = 0.031$, $P > 0.05$). Moreover, there was no significant difference between the two schools for all MCI subscales. Consequently, the data from the two schools were merged in the analysis.

Table 1: The Relationships between Students' Perceived EFL Classroom Climate sub-scales and their English Achievement Test Mean Score at the two schools

Gidole		Satisfaction	Cooperativeness	Cohesiveness	Involvement	Support	Task Challenge
Achievement	r-value	0.008	0.043	0.018	*0.17	*0.24	*0.31
	p-value	0.47	0.34	0.43	0.04	0.01	0.001

Table 1 shows the relationships between students' perceived classroom climate variables and their English achievement mean score at the two Secondary and Preparatory Schools. Accordingly, significant positive correlations were found between students' perception of involvement (r=0.17, n=100, *P*<0.05), teacher support (r=0.24, n=100, *P*<0.05), students' perception of task challenge (r=0.31, n=100, *P*<0.05) and achievement mean score respectively. However, the correlations between students' perception of satisfaction (r=0.008, n=100, *P*>0.05), cooperativeness (r=0.043, n=100, *P*>0.05), cohesiveness (r=0.018, n=100, *P*>0.05) and achievement mean score were found to be statistically non-significant respectively.

Table 2: Summary of Multiple Regression Analysis between Predictor Variables and English language Achievement Scores

Source	SS	DF	MS	F	Sig
Multiple Regression	221.428	6	36.905	5.242	.000
Residual	654.762	193	7.040		
Total	876.190	199			
N=100, R= 0.503, R square=0.253,			**Adjusted R^2 =0.205**		

Table 2 above is a summary of multiple regression analysis between the predictor variables and criterion variable. The analysis was performed to investigate whether or not a combination of classroom climate variables would have predictive power for English language achievement. As indicated, the result revealed that the combination of the independent variables significantly predicts students achievement [*F* (6, 193) = 5.24, *P*<0.001]. The predictor variables taken against the criterion variable yielded a coefficient of multiple correlations (R) of 0.503 which could be taken as high positive correlation between combined factors and the English achievement test mean score (Cohen,1988). Additionally, as indicated in table 2, adjusted R^2 value is 0.205. This indicates that all six classroom climate variables combined together explained 20.5% of the variance in the English achievement test scores.

Table 3: Relative Contributions of Predictor Variables to the Observed Variance in English language Achievement

Predictor Variables	β -weight	t	p
(Constant)		7.994	.000
satisfaction	-.350	-1.970	.052
cooperativeness	.236	1.748	.084
cohesiveness	.066	.339	.736
involvement	.566	2.265	.026
Teacher support	.270	2.539	.013
Task challenge	.871	3.868	.000

Table 3 gives the predictor variables in the regression equation, the Beta weights, the t and the p values. Accordingly, the table reveals that the Beta values for task challenge (β = 0.871; t = 3.868, *P*< 0.05), involvement (β = 0.566; t = 2.265, *P*<0.05), and teacher support (β = 0.270; t = 2.539, *P*<0.05) were found to be significant predictors of English language achievement. Among the three significant predictors of English language achievement, task challenge (β = 0.871) was revealed to be the highest predictor while teacher support (β = 0.270) was the least. On the contrary, satisfaction (β = 0.350; t = 1.970, *P*>0.05), cooperativeness (β = 0.236; t = 1.748, *P*>0.05), and cohesiveness (β = 0.066; t = 0.339, *P*>0.05) did not significantly contribute to the prediction of students English achievement.

DISCUSSION

The major purpose of this study was to investigate the relationships between students' perceived EFL classroom climate and their English language achievement at Gidole and Chencha Secondary and Preparatory Schools. Specifically, the first research question sought to answer whether or not there were significant relationships between students' perceived classroom climate subscales and their English language achievement mean score. Consequently, the relation between students' perception of involvement and English language achievement test mean score was found correlated significantly and positively. As students' perception of their involvement and attentiveness in class discussions and activities increase, their academic achievement increase. This finding is consonant with Baek and Choi (2002) study that students' level of learning would be improved as their perceptions of involvement in learning increase.

Similarly, this study found out positive and significant relationship between students' perception of task challenge and English language achievement test mean score. This implies that learning would be enhanced when tasks/activities to be done felt to be demanding by the students. The finding of the current study is in agreement with some previous works. These studies revealed that students who rated their classrooms tasks challenging, achieved more academically and engaged more often in activities related to the subject matter (Haertel *et al*., 1981 and Walberg and Greenberg, 1997; Baek and Choi, 2002). The current finding was also found to be consonant with the existing theory that states learners learn as they perceive a task a little bit beyond their current level (Krashen, 1981, and Vygotsky, 1978). However, this study contradicts with Slonaker (1989) who found a negative relationship between task challenge and achievement score while Anderson's (1982) study found no significant relationship.

In addition to involvement and task challenge, significant and positive correlation was found between students' perception of teacher support and English language achievement test mean score. As students' perception of their teachers' supportive, concern and friendship increases, the more comfortable they feel to participate in class and the better they learn. This finding is congruent with other empirical works which revealed also significant and positive correlation between students' perceived teacher support and their English language achievement test score (Baek and Choi, 2002; Dorman, 1996; Howes, 2000).

Despite the fact that positive and significant correlations were found between students' perceptions of classroom climate (task challenge, involvement and teacher support) and their English language achievement test mean score, there were no statistically significant correlations between students' English language achievement test mean score and some classroom climate variables. To begin with, this study revealed no statistically significant correlation between students' English language achievement test mean score and perceived cohesiveness. This finding is compatible with Dunn and Harris (1998) who found out no significant relation between these variables. Divergently, some works divulged that students' perception of cohesive classroom was significantly and positively correlated with their achievement mean scores (Montoya and Brown, 1990; Baek and Choi, 2002).

Similar to cohesiveness, this study pin pointed no statistically significant correlation between students' English language achievement test mean score and their perceived cooperation. This finding is harmonious with Deng (1992) and Slonaker (1989) who found out no statistically significant relationship between these variables.

Finally, this study found out no statistically significant correlation between students' English language achievement test mean score and their perceived satisfaction. Consistent with this finding, some research works showed that there were no significant relationships between the two variables (Anderson, 1982; Slonaker, 1989 and Dunn and Harris, 1998). However, other studies confirmed a significant relationship between perceived satisfaction and students' achievement mean scores (Chavez and Cardenas, 1980; Fraser and Fisher, 1983; and Wren, 1992).

As discussed above, no statistically significant relationships were found between some classroom climate variables (cohesiveness, cooperativeness and satisfaction) and students' English language achievement test mean score. The findings of this study do not support the findings of earlier researches as cited along with each issue above. This may be due to the differences in cultural setting and educational system as these factors could potentially affect classroom climate (Li, 1995; Cheng, 1994; Wong; 1995 and Tudor, 1996).

The second research question was whether or not the classroom climate variables combined together significantly predicts students' English language achievement. Concerning this, the result of ANOVA summary of multiple regression analysis revealed that the six classroom climate indicators combined together significantly predicted students' English language achievement. These classroom climate variables pooled together explained 20.5% of the variances in the English achievement test scores. This implies that students' perception of quality classroom climate determines to a great extent their academic achievement. This finding accords with other similar works (Brophy and Good, 1986; Fraser, 1994; 1998; Baek and Choi, 2002).

With regard to the relative contribution of classroom climate variables to students' academic achievement, beta weights of regression were calculated as indicated in table 3 above. Accordingly, task challenge ($\beta = 0.871$) was revealed to be the best predictor while teacher support ($\beta = 0.270$) was the least among significant predictors of English language achievement.

CONCLUSIONS

This study indicated positive and significant correlations between students' perceived classroom climate variables (task challenge, involvement and teacher support) and their English language achievement test mean score. These imply that favorable classroom climate contributes to a positive learning outcome. On the other hand, no statistically significant relationships were found between some classroom climate variables (cohesiveness, cooperativeness and satisfaction) and students' English language achievement test mean score. The absence of correlations identified in certain classroom climate variables signify that teachers' could not able to create cohesive, cooperative and satisfied EFL classrooms. Therefore, teachers should pay attention to EFL classroom climate since it plays positive/negative roles on the achievement of the students.

Moreover, the finding indicated classroom climate variables pooled together predicted students' English language achievement significantly. Among these, perceived task challenge was found to be the most predictor. This implies that students' perception of learning environment determines to a great extent their academic achievement in EFL classrooms. Therefore, it is recommended that EFL teachers should be sensitive to the students' classroom learning environment and ensure that positive and motivating conditions have been created. Furthermore, EFL teachers need to get further training on the importance of classroom climate in teaching. Similarly, teacher training institutions should provide both theoretical and practical orientations on classroom climate.

This study has limitations related to scope of the study and data gathering tool. The study was conducted on 200 grade 10 students of two schools which are found in SNNPs state, Ethiopia. Thus, the finding from the study should not be generalized to any other student population other than the district of the study. In addition, writing, speaking and grammar were not included in the English achievement test. Furthermore, the instruments were administered only once in the schools in particular period. A snapshot of classroom climate and English achievement test introduced once in a year may not offer enough accurate data. Longitudinal research should be conducted with multiple measures of climate and/or achievement to determine the relationship between students' perceived EFL classroom climate and their English achievement.

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